

Notice of Allowability

Application No.

09/542,525

Applicant(s)

KUCH ET AL.

Examiner

Art Unit

Qamrun Nahar

2124

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 7/26/04.
2. ☒ The allowed claim(s) is/are 1-53.
3. ☒ The drawings filed on 26 July 2004 are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|---|--|
| 1. <input type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date <u>3/14/01</u> | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

1. This action is in response to the amendment filed on 7/26/04.
2. The objection to claim 43 is withdrawn in view of applicant's amendment.
3. The rejection under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention to claims 18-20, 27-30 and 47 is withdrawn in view of applicant's amendment.
4. The rejection under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter to claims 42-45 is withdrawn in view of applicant's amendment.
5. The rejection under 35 U.S.C. 102(b) as being anticipated by Trishul M. Chilimbi and James R. Larus, "Using Generational Garbage Collection To Implement Cache-Conscious Data Placement", 1998 (hereinafter "Chilimbi") to claims 6-13, 15-21, 36, 39-51 and 53 is withdrawn in view of applicant's amendment and remarks/arguments.
6. The rejection under 35 U.S.C. 102(e) as being anticipated by Benitez (U.S. 6,189,141) to claims 27, 29-30 and 34-35 is withdrawn in view of applicant's amendment and remarks/arguments.
7. The rejection under 35 U.S.C. 103(a) as being unpatentable over T. M. Chilimbi and James R. Larus, "Using Generational Garbage Collection To Implement Cache-Conscious Data Placement", 1998 (hereinafter "Chilimbi") in view of Li (U.S. 6,631,496) to claims 1-5, 14, 31-33, 37-38 and 52 is withdrawn in view of applicant's amendment and remarks/arguments.
8. The rejection under 35 U.S.C. 103(a) as being unpatentable over T. M. Chilimbi and James R. Larus, "Using Generational Garbage Collection To Implement Cache-Conscious Data

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Placement”, 1998 (hereinafter “Chilimbi”) in view of Benitez (U.S. 6,189,141) to claims 22 and 25 is withdrawn in view of applicant’s amendment and remarks/arguments.

9. The rejection under 35 U.S.C. 103(a) as being unpatentable over Benitez (U.S. 6,189,141) in view of Christenson (U.S. 6,324,620) to claim 28 is withdrawn in view of applicant’s amendment and remarks/arguments.

10. The rejection under 35 U.S.C. 103(a) as being unpatentable over T. M. Chilimbi and James R. Larus, “Using Generational Garbage Collection To Implement Cache-Conscious Data Placement”, 1998 (hereinafter “Chilimbi”) in view of Benitez (U.S. 6,189,141), and further in view of Christenson (U.S. 6,324,620) to claims 23, 24 and 26 is withdrawn in view of applicant’s amendment and remarks/arguments.

11. Claims 1, 18, 27, 31, 34, 42-45, 47 and 53 have been amended.

12. Claims 1-53 are pending.

13. Claims 1-53 are allowed.

Information Disclosure Statement

14. The information disclosure statement (IDS) submitted on 8/3/04 was originally filed on 3/14/01; however, it was missing. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

REASONS FOR ALLOWANCE

15. The following is an examiner’s statement of reasons for allowance:

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The cited prior art taken alone or in combination fail to teach, in combination with the other claimed limitations, responsive to said consulting metadata indicating how the *data members* of the object class are to be grouped into a plurality of separate groups comprising a first group and a second group, assigning memory locations for *data members* of the first group of the object class within a first unit of memory in the virtual memory system; and responsive to said consulting metadata indicating how the *data members* of the object class are to be grouped into a plurality of separate groups comprising a first group and a second group, assigning memory locations for *data members* of the second group of the object class within a second unit of memory in the virtual memory system separately loadable into primary memory from the first unit as substantially recited in independent claims 1, 6, 21, 27, 31, 34, 36, 37, 39, 41, 42, 46, 50, 52 and 53.

The closest cited prior art, Chilimbi teaches a method of arranging a plurality of *objects* in a virtual memory system. However, Chilimbi fails to teach responsive to said consulting metadata indicating how the *data members* of the object class are to be grouped into a plurality of separate groups comprising a first group and a second group, assigning memory locations for *data members* of the first group of the object class within a first unit of memory in the virtual memory system; and responsive to said consulting metadata indicating how the *data members* of the object class are to be grouped into a plurality of separate groups comprising a first group and a second group, assigning memory locations for *data members* of the second group of the object class within a second unit of memory in the virtual memory system separately loadable into primary memory from the first unit as substantially recited in independent claims 1, 6, 21, 27, 31, 34, 36, 37, 39, 41, 42, 46, 50, 52 and 53; and as pointed out by the applicant's arguments on pg.

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23, par. 2 to pg. 24, par. 2; pg. 25, par. 3; pg. 26, par. 2; pg. 26, par. 4 to pg. 27, par. 1; pg. 27, par. 4 to pg. 28, par. 4; pg. 29, par. 1 to par. 5; pg. 30, par. 3 to par. 5; pg. 31, par. 3 to par. 4; pg. 32, par. 1 to par. 2; pg. 33, par. 1 to par. 6; pg. 34, par. 3 to par. 4; pg. 35, par. 3 to pg. 36, par. 3; and pg. 37, par. 1 to par. 2.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

16. Any inquiry concerning this communication from the examiner should be directed to Qamrun Nahar whose telephone number is (703) 305-7699 ***if calling before October 28, 2004***; otherwise ***if calling on or after October 28, 2004***, then the telephone number is (571)272-3730. The examiner can normally be reached on Mondays through Thursdays from 9:00 AM to 6:30 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki, can be reached on (703) 305-9662. The fax phone number for the organization where this application or processing is assigned is (703) 872-9306.

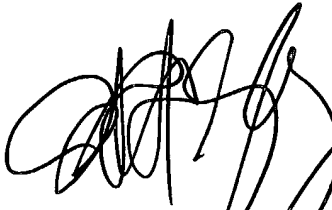
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications

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may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Qamrun Nahar
September 16, 2004



TODD INGBERG
PRIMARY EXAMINER